

**DECLARATION  
Utility Application**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled **MULTIPLEX AMPLIFICATION AND SEPARATION OF NUCLEIC ACID SEQUENCES USING LIGATION-DEPENDANT STRAND DISPLACEMENT AMPLIFICATION AND BIOELECTRONIC CHIP TECHNOLOGY**, the specification of which

(Check One) ☒ is attached hereto OR  
☐ was filed on \_\_\_\_\_ as United States Application Serial No. \_\_\_\_\_ or  
PCT International Application No. \_\_\_\_\_ and was amended on \_\_\_\_\_ (if  
applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment(s) referred to above.

I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Date of Filing	Priority Claimed	
			Yes	No

I hereby claim the benefit under Title 35, United States Code § 119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or § 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

U.S. Parent Application Number	PCT Parent Number	Parent Filing Date	Status-Patented, Pending or Abandoned

Send Correspondence to: John M. Benassi	LYON & LYON LLP 633 W Fifth St., Suite 4700 Los Angeles, CA 90071	Direct Telephone calls to: (619) 552-8400, Extension 5551
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	FULL NAME OF INVENTOR	FIRST Name John	MIDDLE Initial J.	LAST Name Carrino	
201	RESIDENCE & CITIZENSHIP	City San Diego	State or Foreign Country California	Country of Citizenship USA	
	POST OFFICE ADDRESS	13129 Sea Knoll Court	City San Diego	State or Country California	Zip Code 92130
	FULL NAME OF INVENTOR	FIRST Name Louis	MIDDLE Initial O.	LAST Name Gerrue	
202	RESIDENCE & CITIZENSHIP	City San Diego	State or Foreign Country California	Country of Citizenship USA	
	POST OFFICE ADDRESS	3907 Georgia Street	City San Diego	State or Country California	Zip Code 92103
	FULL NAME OF INVENTOR	FIRST Name Jonathan	MIDDLE Initial M.	LAST Name Diver	
203	RESIDENCE & CITIZENSHIP	City San Diego	State or Foreign Country California	Country of Citizenship United Kingdom	
	POST OFFICE ADDRESS	11909 Sunshine Peak Court	City San Diego	State or Country California	Zip Code 92131
	FULL NAME OF INVENTOR	FIRST Name	MIDDLE Initial	LAST Name	
204	RESIDENCE & CITIZENSHIP	City	State or Foreign Country	Country of Citizenship	
	POST OFFICE ADDRESS		City	State or Country	Zip Code
	FULL NAME OF INVENTOR	FIRST Name	MIDDLE Initial	LAST Name	
205	RESIDENCE & CITIZENSHIP	City	State or Foreign Country	Country of Citizenship	
	POST OFFICE ADDRESS		City	State or Country	Zip Code
	FULL NAME OF INVENTOR	FIRST Name	MIDDLE Initial	LAST Name	
206	RESIDENCE & CITIZENSHIP	City	State or Foreign Country	Country of Citizenship	
	POST OFFICE ADDRESS		City	State or Country	Zip Code

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signature of Inventor	201
4/6/99 <i>[Signature]</i>	
Date	
Signature of Inventor	202
4/6/99 <i>[Signature]</i>	
Date	
Signature of Inventor	203
<i>[Signature]</i>	
Date	4/6/99

Signature of Inventor	204
Date	
Signature of Inventor	205
Date	
Signature of Inventor	206
Date	

(Signatures should conform to names as presented at 201 et seq. above.)

ASSIGNMENT

For valuable consideration, we, JOHN J. CARRINO of San Diego, California and a citizen of USA; LOUIS O. GERRUE of San Diego, California and a citizen of USA and JONATHAN M. DIVER of San Diego, California and a citizen of the United Kingdom (hereinafter referred to as "Assignors") hereby assign to THE NANOGEN/BECTON DICKINSON PARTNERSHIP, a corporation organized and existing under and by virtue of the laws of the State of Delaware and having its principal place of business at 10398 Pacific Center Court, San Diego, California 92121, and its successors and assigns (collectively hereinafter called "the Assignee"), the entire right, title and interest throughout the world in the invention and improvements which are the subject of an application for United States Patent filed herewith, U.S. Serial No. to be assigned, and related applications and patents, entitled MULTIPLEX AMPLIFICATION AND SEPARATION OF NUCLEIC ACID SEQUENCES USING LIGATION-DEPENDANT STRAND DISPLACEMENT AMPLIFICATION AND BIOELECTRONIC CHIP TECHNOLOGY, this assignment including said application, any and all United States and foreign patents granted for any of said inventions or improvements, including all divisions, continuations, reissues, continuations-in-part and extensions thereof, and the right to claim priority based on the filing date of said application and based on the filing date of any provisional application of which said application claims the benefit under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes; and we authorize the Assignee to apply in all countries in our names or in its own name for patents and like rights of exclusion and for inventor's certificates for said inventions and improvements; and we agree for ourselves and our heirs, legal representatives and assigns, without further compensation, upon request to perform such lawful acts, to promptly provide Assignee with all pertinent facts and documents relating to said invention or application as may be known and accessible to us, to testify in any interference or litigation related to said invention or application and to sign such further applications, assignments, Preliminary Statements and other lawful documents as the Assignee may reasonably request to effectuate fully this Assignment.

The Assignors hereby covenant that no assignment, sale, agreement, or encumbrance has been or will be made or entered into which would conflict with this Agreement.

WITNESS my hand at San Diego, CA  
this 6 day of April, 1999.

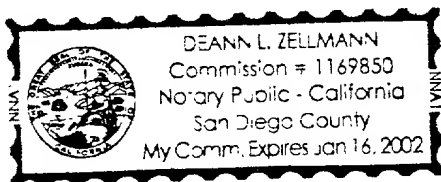
[Signature]  
John J. Carrino

STATE OF CALIFORNIA )  
 ) ss  
COUNTY OF SAN DIEGO )

On \_\_\_\_\_ before me, DEANN L. ZELLMANN, personally appeared  
John J. Carrino

☐ personally known to me - OR - ☒ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.



[Signature]  
Notary Public in and for said County and State

WITNESS my hand at San Diego, CA  
this 6 day of April, 1999.

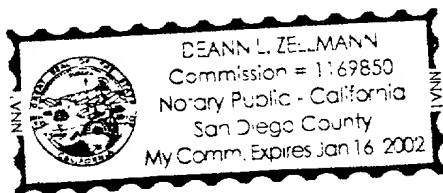
Louis O. Gerrue  
Louis O. Gerrue

STATE OF CALIFORNIA )  
 ) ss  
COUNTY OF SAN DIEGO )

On 4/4/99 before me, DEANN L. ZELLMANN, personally appeared  
Louis O. Gerrue

☐ personally known to me - OR - ☒ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.



Deann L. Zellmann  
Notary Public in and for said County and State

WITNESS my hand at SAN DIEGO, CA  
this 6<sup>th</sup> day of APRIL, 1999.

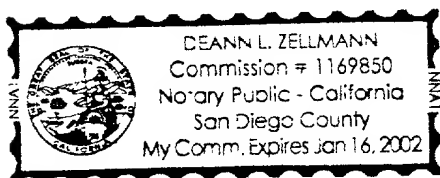
Jonathan M. Diver  
Jonathan M. Diver

STATE OF CALIFORNIA )  
 ) ss  
COUNTY OF SAN DIEGO )

On 4/6/99 before me, DEANN L. ZELLMANN, personally appeared  
Jonathan M. Diver

☐ personally known to me - OR - ☒ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.



Deann L. Zellmann  
Notary Public in and for said County and State

**POWER OF ATTORNEY  
By Assignee**

NANOGEN, INC. and BECKTON, DICKINSON AND COMPANY, assignee(s) of the application for  
United States Letters Patent for an improvement in

Multiplex Amplification and Separation of Nucleic Acid Sequences Using Ligation-Dependant Strand  
Displacement Amplification and Bioelectronic Chip Technology  
by John J. Carrino et al.

the specification of which:

☐ is filed herewith, OR  
☒ was filed on April 12, 1999, having U.S. Patent Application Serial No. 09/290,577,

does hereby appoint as my attorneys and/or agents, with full power of substitution and revocation,  
to prosecute this application and transact all business in the United States Patent and Trademark  
Office, and in countries other than the United States, and to do all things necessary or appropriate  
therefor before any competent International Authorities in connection with any international patent  
application(s) corresponding to the above-identified application, all of the registered practitioners  
identified by Customer Number 22249:



**22249**

PATENT TRADEMARK OFFICE

LYON & LYON LLP  
Suite 4700  
633 W. Fifth Street  
Los Angeles, CA 90071  
(213) 489-1600

Please send all correspondence to the attention of David B. Murphy/Patrick Eagleman, at the  
above Customer Number, and direct all telephone calls to **949/567-2300**.

I, the undersigned, declare that I have reviewed copies of the documentary evidence establishing  
chain of title to the patent application identified above from the inventor(s) to the assignee(s),  
which:

☐ is filed for recordation herewith; or  
☒ was recorded at Reel 9908, Frame 0773; or  
☐ has been sent for recordation under separate cover, copy attached herewith.

To the best of the undersigned's knowledge and belief, title is in the assignee(s) identified above.  
Furthermore, the undersigned is empowered to sign this document on behalf of the assignee(s).

**NANOGEN/BECTON DICKINSON PARTNERSHIP**

Dated: 02/15/01

(Print Name) Howard C. Birndorf

Title Manager

For NanoVenture LLC  
10398 Pacific Center Court, San Diego, CA 92121

Dated: 3/12/01

Vincenta Forlengo  
(Print Name)  
Title Manager  
For Becton Dickinson Venture LLC

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